Table of Contents

*Author for correspondence

Authors	Page	Title
K. RICKERT, R.R. MARTINEZ & T. T. MARTINEZ*	1	Pharmacist's Knowledge of Common Herbal Preparations
F.J. FLORES-MURRIETA*, D.E. MERCADO, J. RODRÍGUEZ-SILVERIO & R. CHAPELA	3	Pharmacokinetic/Pharmacodynamic Modeling of Theophylline in Patients with Different Degrees of Airways Obstruction
D.S. SANGHA, N.D. VAZIRI, Y. DING, S. HAN, N. ALEM, Y.-A. CHEN & R.E. PURDY*	5	Simulated Microgravity Impairs Vascular Contractility: Role of Nitric Oxide-Dependent Vasodilator Mechanisms
C.I. KAHWAJI, D.S. SANGHA, S. SHEIBANI, M. ASHORI, H. NGUYEN, Y. KIM & R.E. PURDY*	9	Simulated Microgravity-Induced Vascular Hyporesponsiveness: Role of the Signal Transduction
R.A. COOPER & R.J. HUXTABLE*	13	The Relationship between Reactivity of Metabolites of Pyrrolizidine Alkaloids and Extrahepatic Toxicity
V. PEREZ-ALVAREZ*, R.A. BOBADILLA, A. ALIAS, M. RICO & P. MURIEL	17	Dose-Regimen Dependent Caffeic Acid Prevention of Acute Liver Damage
R.A. BOBADILLA*, E. CASTILLO, V.M. PÉREZ-ALVAREZ, J. LARIOS & D. HERNÁNDEZ	19	Nitric Oxide and Prostaglandins Interactions in the Relaxant Responses of Rat Aorta: Influence of Pregancy
J. ASBUN-BOJALIL, B.E. ACOSTA, G. CEBALLOS-REYES, M.E. OCHARÁN-HERNÁZ, E.F. CASTILLO-HENKEL & C. CASTILLO-HENKEL*	23	Segmental Differences in Rat Aorta Contraction Induced by Phenylephirne in Aortic Rings
A. HERMANN, R. JANAKY, R. DOHOVICS, P. SARANSAARI, S.S. OJA* & V. VARGA	25	Potentiation by L-Cysteine of N-Methyl-D-Aspartate Receptor Effects on Intracellular Free Ca^{2+} in Cultured Cerebellar Granule Cells
P. SARANSAARI* & S.S. OJA	27	Anticonvulsant Taurine Derivatives Modify Taurine and GABA Release in the Mouse Hippocampus
G.C. SANDOVAL*, R.M. SANTILLÁN, E. JUÁREZ, G.R. MARTÍNEZ & M.E.C. JUÁREZ	31	Effect of Glycine on Hemoglobin Glycation in Diabetic Patients
R.M. SANTILLÁN*, G.R. GARCÍA & E.M. GARCÍA	33	Prevention of Gastroduodenal Injury Induced by NSAIDs with Low-Dose of Misoprostol
G. CARVAJAL-SANDOVAL, E. JUÁREZ, G. RAMOS-MARTÍNEZ, M.E. CARVAJAL-JUÁREZ & R. MEDINA-SANTILLÁN*	35	Inhibition of Hemoglobin Glycation with Glycine in Induced Diabetes Mellitus in Rats
E. HONG*, G. OROZCO, A. MENESES & G. FILLION	37	Effect of 5-HT-Moduline, An Endogenous Peptide, in Associative Learning
R.D. MATHISON*, C. SANK & J.S. DAVISON	39	Inhibition of Leukocyte Rolling by Submandibular Gland Peptide-T (SGP-T)
J.R. LEE, X. ZHANG & T.E. TENNER, JR*.	41	Evidence for Spare Beta-Adrenoceptors In the Rabbit Heart

Authors	Page	Title
R.L. HOPFNER, D.A. MISURSKI, J.R. MCNEILL & V. GOPALAKRISHNAN*	45	Cardiovascular Actions of Vanadate in the Genetically Obese Zucker Rat
D.A. MISURSKI, R.L. HOPFNER, J.R. MCNEILL & V. GOPALAKRISHNAN*	49	Endothelium Dependent Alterations in Responses of the Mesenteric Vascular Bed in the Streptozotocin Diabetic Rat
S.H. ROTH*, N. SAMANANI & D.P. ARCHER	53	Mechanism for Pentobarbital-Induced Enhancement of Synaptic Activity May Be Similar to that for Long Term Potentiation (LTP) in the Mammalian CNS
J. PÉREZ-URIZAR, P. AGUIRRE-BAÑUELOS, F.J. LÓPEZ-MUÑOZ, G. CASTAÑEDA-HERNÁNDEZ & V. GRANADOS-SOTO*	55	Activation of Adenosine A_1 Receptors Facilitates the Analgesic Effect of Ketorolac and Ketorolac-Caffeine Combinations in the Rat
H.P. BEHRSING* & P.R. VULLIET	59	Purinergic and Calcium-Mediated Enhancement of NGF-Induced Neurite Expression in PC12 Cells
S. TAKAYAMA, D.J. LEGARE & W.W. LAUTT*	63	Dynamic Control of the Release of a Hepatic Insulin Sensitizing Substance
E. METWALLY*, J.S. DAVISON & R.D. MATHISON	65	Tyrosine is Detrimental to the Biological Activity of Submandibular Gland Peptide-T (SGP-T)
K.M. BROOKS, J. CAI, A. SANDRASAGRA, J.E. ROEHR, R. ERRAZO & H.M. VARGAS*	67	Interaction of Clozapine and Other Antipsychotic Drugs with Human α_1-Adrenergic Receptor Subtypes
R.M. VIGUERAS*, G. REYES, J.O. CUEVAS, J.C. ROJAS & H. MERCHANT-LARIOS	71	The Histological Effect of the Human Chorionic Gonadotropin and a Luteinizing Hormone-Releasing Hormone on Experimental Cryptorchidism in Rats
J.C. ROJAS*, R.M. VIGUERAS, G. REYES, P. ROJAS, L. CINTRA & R. AGUILAR-ROBLERO	75	Morphological Changes Produced by the Acute Prenatal Ethanol Exposure on Immunoreactive Vasoactive Intestinal Polypeptide Cells of the Suprachiasmatic Nucleus of the Rat
G. REYES*, E. MENDOZA, R.M. VIGUERAS, F. VILLEGAS, P. MEDINA & J.C. ROJAS	77	The Effects of Streptokinase-Streptodornase Administration on Histological Damage Following Testicular Torsion
X. WANG, S. FRANCIOSI, J.H. BAE, S.U. KIM & J.G. MCLARNON*	79	Expression of P_{2Y} and P_{2X} Receptors in Cultured Human Microglia
E.A. GORDON & L.J. GUPPY*	83	Cardiomyopathic Changes in Streptozotocin-Induced Diabetes
G.J. MOORE*, J.M. PIRES & L.J. HAYDEN	87	Design of Mimetics of Gonadotropin Releasing Hormone (GnRH) with Effects on Breast Cancer Cell Proliferation
G. REYES GARCÍA*, R. MEDINA SANTILLÁN, E. CASTILLO HENKEL, J. RODRIGUEZ SILVERIO, TERÁN ROSALES & E. MATEOS GARCIA	91	Analgesic Effect of Sodium Diclofenac Plus Vitamin B Complex in the PIFIR Model
N.W. DOSS, T. CRIMI, Y. ABRAHAM, A.R. ABADIR & J. GINTAUTAS*	93	Cervical Plexus Block with Ropivacaine for Neck Surgery
M. YAMAN, A.R. ABADIR & J. GINTAUTAS*	95	Modulation of Phospholipids Metabolism, Leukotrienes and Prostaglandin Synthesis by Local Anesthetic Agents
M. YAMAN, R. FOLGER, A.R. ABADIR & J. GINTAUTAS*	97	Protein Calorie Malnutrition Induces Macrophage NF-kB Expression
N.W. DOSS, I. VELIYANIPARAMBIL, R. KRISHNAN, J. GINTAUTAS* & A.R. ABADIR	99	Continuous Thoracic Epidural Ropivacaine Drips for Multiple Rib Fractures

Authors	Page	Title
J. GINTAUTAS*, W. HOUSNY & B.J. KRAYNACK	101	Successful Treatment of Reflex Sympathetic Dystrophy by Bier Block with Lidocaine and Clonidine
LINDA M. HOANG & GRANT STIVER*	103	Association Between Cephalosporin Therapy and Subsequent Nosocomial Enterococcal Colonization in Surgical Patients
MICHAEL K. PUGSLEY, ESTHER J. YU, THOMAS H. MCLEAN & ALAN L. GOLDIN*	105	Blockade of Neuronal Sodium Channels by the Antiepileptic Drugs Phenytoin, Carbamazepine and Sodium Valproate

Symposia and Plenary Presentations

F. MITCHELSON* & A. SHEN	109	Studies on Muscarinic M_2 Receptors in Smooth Muscle
M.S. GOLD	111	Inflammatory Mediator-Induced Modulation of TTX-R I_{Na}: An Underlying Mechanism of Inflammatory Hyperalgesia
P. HUNT	113	A Case Study in Pharmacogenomics: Leptin Preclinical and Clinical Development
R.J. SUMMERS*, S.J. ROBERTS, D.S. HUTCHINSON & B.A. EVANS	115	$ß_3$ Adrenoceptors: Their Role and Regulation in the Gastrointestinal Tract
G. BURNSTOCK	119	Current Status of P2X Receptors: Distribution and Pathophysiologic Roles
M. LIYANAGE, E. GRAZZINI, B. MANDURRAGO, M. RILEY, P. SANDERS, H.L. WELCHLIN & K.G. XANTHOPOULOS*	123	Developing Targets for Drug Discovery Using Genome-Wide Gene Trapping and Ultra-Sensitive ß-Lactamase Reporters

Abstracts

C.W. DYKES	127	Genotyping and Differential Gene Expression Technologies Applied to Clinical Drug Development
J-M. TRIFARÓ, M. G. MARCU, L. ZHANG & S. D. ROSÓ	127	Two Pathways Control Chromaffin Cell Cortical F-Actin Cytoskeleton Dynamics During Secretion
J.R. MCNEILL, M. YU & V. GOPALAKRISHNAN	127	Role of Endothelin (ET) and Vasopressin (AVP) in the Deoxycorticosterone Acetate (DOCA)-Salt Hypertensive Rat
J.J. CALIXTO, D.V. DANIELS, I.B. OGLESBY, T.J. WILLIAMS, S.J. MACLENNAN & G.R. MARTIN	128	Fetal Bovine Serum in Culture Medium Alters the Pharmacological Behavior of Human 5-HT_7 Receptors Expressed in HEK 293 Cells
G.C. VIDAL-CANTÚ, L. CRUZ-ANTONIO, A. NAVARRETE & G. CASTAÑEDA-HERNÁNDEZ	128	Decrease of Oral Aspirin Bioavailability Produced by Chili Pepper Ingestion in the Rat
K.G. SUTTON, L.D. ARTMAN, S. HECK, R.A. VOLKMANN, M.K. AHLIJANIAN & T.P. SNUTCH	128	DW13.3, A Peptide Toxin From The Spider *Filistata,* Differentially Blocks Neuronal Calcium Channels
L.A.I. HERNÁNDEZ-ALVAREZ, B. VICTORIA-ROMERO, A. MÁRQUEZ-OROZCO, J.C. LEÓN-CARMONA & M.C.	128	Sexual Behavior of Male Mice Prenatally Treated with Diazepam or a Single Dose of Flunitrazepam

Authors	Page	Title
MÁRQUEZ-OROZCO		
R.A. COOPER, H. FUJIOKA, D.I. BARUCH & T.E. WELLEMS	129	Physicochemical Properties of CG2, a Candidate Chloroquine Resistance Protein from *Plasmodium falciparum*
C. CALZADO, J. VERDE & J. SEGURA	129	Inhibitory Activity of Two Crude Extracts from ***Castela texana*** On Differentiation of *Entamoeba invadens*
J.-F. BOUCHARD, J. CHOUINARD & D. LAMONTAGNE	129	Role of Prostaglandins in the Endothelial Protective Effect of Ischemic Preconditioning
E. METWALLY, J.S. DAVISON, G.J. MOORE, D. BEFUS & R.D. MATHISON	130	Structural Analysis of Anti-Anaphylactic Tripeptide, FEG
T.R. LAHANN & J. LARSEN	130	Modeling the Impact of Neutron Energy on Neutron Fluence and Drug Requirements for Boron Neutron Capture Therapy for Brain Cancer
T.K. HARDEN	130	G Protein-Coupled P2Y Receptors
D. CRAIG, D. KNITTLE, Q.-M. ZHU, R. EGLEN & D. BLUE	130	Cardiovascular Effects of α_1-Adrenoceptor ($\forall_1$-AR) Antagonists that Inhibit Non-Micturition Bladder Contractions (NMBCs) in Chronically-Obstructed, Conscious Rats
T.P. SNUTCH & G. ZAMPONI	131	Molecular Mechanism of the G-Protein-Dependent Opioid Modulation of Presynaptic Calcium Cannnels
G. CASTAÑEDA-HERNÁNDEZ & P. DU SOUICH	131	*In Vivo* Pharmacodynamics: The Concentration-Effect Relationship May Vary Depending on the Rate of Drug Input
C. BALDIZÓN-RODRÍGUEZ, S. TOLEDO-BALLADARES, J. FLORES-TREVIÑO & J. SEGURA	131	Evaluation of Two Different Analgesic Therapeutic Schemes with Ibuprofen
M. GWAK, P. PARK, A. ABADIR, R. FOGLER & J. GINTAUTAS	131	Effects of Pentoxyphylline on Hemorrhagic Shock In Cats
P-Y. CHEUNG, G. SAWICKI, M.. WOZNIAK, M.W. RADOMSKI & R. SCHULZ	132	Inhibition of Matrix Metalloproteinase-2 (MMP-2) Improves Recovery of Mechanical Function Following Ischemia-Reperfusion in Isolated Rat Hearts
A. CALIGNANO, G. LA RANNA, A. GIUFFRIDA & D. PIOMELLI	132	Control of Pain Initiation by Endogenous Cannabinoids
N. UEDA, K. KATAYAMA, S.K. GOPARAJU, Y. KURAHASHI, H. SUZUKI & S. YAMAMOTO	132	Purification and Characterization of Recombinant Anandamide Amidohydrolase
S. TICHENOR, B.C. OXHORN & I.L.O. BUXTON	133	Cellular Release of ATP is Correlated with Expression of CFTR but not P-Glycoprotein
S. LAMOUCHE & N. YAMAGUCHI	133	Role of PACAP Type I Receptor in Canine Adrenal *In Vivo*
S.G. SHETTY, D.A. MANDEL, S. MACLENNAN, R.M. EGLEN, S.S. HEGDE, & N. WATSON	133	Cannabinoid CB1 Receptor Agonism Inhibits Urinary Bladder Contractile Function in Pithed and Anesthetized Rats
M. C. KOSS	134	Rilmenidine Produces Mydriasis in Cats by Stimulation of CNS $\forall_2$-Adrenoceptors
J. GINTAUTAS, K.E. KLEBBA, N.W. DOSS & A.R. ABADIR	134	Effects of Pre-Emptive Local Infiltration and Regional Block in Addition to General Anesthesia on Post-Operative Nausea and Vomiting
A. MÁRQUEZ-OROZCO, M.C. MÁRQUEZ-OROZCO, M.V. GAZCA-RAMÍREZ & G. DE LA FUENTE-JUÁREZ	134	Exposure *In Utero* to Diazepam Produces a Permanent Ultrastructural Alteration in Cerebral Cortex of Mouse
E.T. WEI, H.A. THOMAS, S. STAIR, A-MANIOTIS[1] & R. STERN	134	Anti-Angiogenic Properties of Mystixin Peptides

Authors	Page	Title
B. F. O'DOWD, A. MARCHESE, D. LEE, T. NGUYEN & S. R. GEORGE	135	Novel Orphan G Protein-Coupled Receptors
S.S.W. NG, M.S. TSAO & D.W. HEDLEY	135	Inhibition of Ras Oncoprotein and Receptor Tyrosine Kinases Potentiates Gemcitabine Toxicity in Human Pancreatic Adenocarcinoma Cells
M. VON ZASTROW	135	Endocytic Membrane Trafficking of G Protein-Coupled Receptors
D. MCGUIRE	135	Chronic, Opioid-Resistant, Neuropathic Pain: Marked Analgesic Efficacy of Intrathecal Ziconotide
M. TESSIER-LAVIGNE	136	Wiring the Brain: Molecular Mechanisms of Axon Guidance in Vertebrates
A.N. VERITY, T L. WYATT, D. DENAGEL, H. KO, P. A. BAECKER & R. M. JOHNSON	136	Anandamide Uptake in Primary Cortical Neurons, Neuroblastoma and Glioblastoma Cell Lines
N. TÜMER, J. LAROCHELLE & P. SCARPACE	136	Role of P-CREB in Tyrosine Hydroxylase Gene Expression
I.L.O. BUXTON & QAIO ZHONG	137	3-Hydroxy-2-Methyl-5-[(Phosphonooxy)Methyl]-4-Pyridinecarboxaldehyde Inhibits P2y1 and P2y2 But Not P2y4 Receptor-Mediated Calcium Release in Cardiac Endothelial Cells
S.P. DUCKLES, D.N. KRAUSE & G.G. GEARY	137	Myogenic Reactivity of Cerebral Blood Vessels: Effect of Estrogen
R.L. SECCHI, L.R. HEDLEY, K.R. GOGAS, J.C. HUNTER & R.L. WHITING	137	The Effects of Endomorphin- 1 and -2 on Thermal Nociception in Rats
R. SPAETGENS, J.B. ROULLET, T. BURLINGAME & G.W. ZAMPONI	138	Modulation of Voltage-Gated Calcium Channels by Farnesol
L.J. BRYAN-LLUKA & S.M. BOYD	138	Norepinephrine (Ne) Transporter (NEI) and Serotonin (5-HT) Transporter (SERT) Regulation by Thyroxine (T4), Angiotensin II (AII) and Insulin (Ins)
B.F. BESSAC, D.J. SELVAGE, T.C. ORITIZ, K.K. PARKER & C.A. JOHNSTON	138	Immunocytochemical Detection of Mineralocorticoid Receptor in Rat Arcuate Nucleus, But Not Hippocampus
G.R. DUBYAK, R. BEIGI, E.E. CLIFFORD, L. GUDIPATY, B.D. HUMPHREYS, S.B. KERTESY & K.A. MARTIN	139	Role of P2 Nucleotide Receptors in Inflammation and Hematopoiesis
G.D. HOUSLEY	139	P2X Receptors and Auditory Signaling
M. BOARDER	139	Subtype Specific P2Y Signaling in Transfected Systems and Vascular Cells: Control of Proliferation
R.C. BOUCHER	139	The Role of $P2Y_2$-R in the Lung
J. SATTERWHITE & I.L.O. BUXTON	140	Human Breast Cancer Cells Secrete NM23h2, A Nucleoside Diphosphate Kinase
A.O. MAKINDE & G.D. LOPASCHUK	140	Activation of 5'-AMP-Activated Protein-Kinase (AMPK) Depresses Recovery of Ischemic Newborn Rabbit Hearts
S.S.W. NG & C.C.Y. PANG	140	*In Vivo* Venodilator Action of Fenoldopam, A Dopamine DA1 Receptor Agonist
M.K. PUGSLEY, T.H. MCLEAN, E.J. YU & A.L. GOLDIN	140	Block of Neuronal (rBIIA) Sodium Channels by Phenytoin, Carbamazepine and Sodium Valproate
S.K.W. SCHWARZ & E. PUIL	141	Effects of Inhibitory Transmitter Antagonists on the Lidocaine-Induced Resistance Decrease in Thalamocortical Neurons
G.A. SIEBERT, S.M. POND & L.J. BRYAN-LLUKA	141	Interactions of Haloperidol (HP) Metabolites with Transporters for Dopamine (DAT), Norepinephrine (NET) and Serotonin (SERT)

Authors	Page	Title
E. BURCHER, F.J. WARNER, F. SHANG, I. MARKUS, L. LIU, DW. KING & D.Z. LUBOWSKI	141	Tachykinins in the Human Colon
K. MACKIE, W. JIN, C. HSIEH, A. SOROM. H. KIM, J. ROCHE, S. BROWN, & C. CHAVKIN	142	Function and Regulation of the CB1 Neuronal Cannabinoid Receptor
D.A. KENDALL	142	Endocannabinoids and Cardiovascular Control
A.S. CLANACHAN, M. GANDHI & B.A. FINEGAN	142	Acidosis-Induced Inhibition of Nitric Oxide Synthase (NOS) in the Post-Ischemic Rat Heart
C. R. TRIGGLE & Y. JIANG	143	Endothelin and Angiotensin II-Induced Contraction of the Rat Tail Artery - Pharmacology of the Signalling Pathways
P. AGUIRRE-BAÑUELOS, J. PÉREZ-URIZAR, F.J. FLORES-MURRIETA & G. CASTAÑEDA-HERNÁNDEZ	143	Therapeutic Drug Monitoring of Oxcarbazepine in Epileptic Patients
Z. CAO, L. WONG, G.R. MARTIN & D.W. BONHAUS	143	Pharmacological Characterization of 5-HT-Evoked Expression of c-fos Protein in the Dorsal Horn of the Rat Spinal Cord
M.C. MÁRQUEZ-OROZCO, A. MÁRQUEZ-OROZCO, M.V. GAZCA-RAMÍREZ, G. DE LA FUENTE-JUÁREZ & L.A.I. HERNÁNDEZ-ALVAREZ	143	Fetal Cerebral Cortex Histological Changes Induced by Diazepam Administered During Gestation of Mice
R.E. PERSON & M.R. JUCHAU	144	Enzymic Catalysis of the Conversion of Ethanol to Acetaldehyde in Human Prenatal Cephalic Tissues
D.-S. IM, S.B. HOOKS & K.R. LYNCH	144	Molecular Pharmacology of Lipid Phosphoric Acid Receptors
O. CIVELLI	144	Functional Genomics and Orphan Receptors
J.-F. BOUCHARD & D. LAMONTAGNE	145	Contribution of the Endogenous Cannabinoids in the Endothelial Protective Effect of Ischemic Preconditioning
S.B. HOOKS & K.R.LYNCH	145	The Role of Phospholipid Phosphatases in the Regulation of Bioactive Lipids
L. SANGAMESWARAN, P. S. DIETRICH, B. D. KOCH, S. NOVAKOVIC, D. K. RABERT, J. G. MCGIVERN, M. ILNICKA, P.SZE, E. TZOUMAKA, L. KASSOTAKIS, F. PORRECA, J. LAI, R. M. EGLEN & J. C. HUNTER	145	Characterization of Novel Sodium Channels in Peripheral Sensory Neurons

Special Supplement: Pharmacology at the Millennium: Past, Present, Future

R.J. HUXTABLE	149	Pharmacology at the Millennium – Introduction
M.J.A. WALKER	151	Pharmacology 2000 – An Overview
M.J.A. WALKER	153	Pharmacology – A Unique Discipline for Unique Questions?
T.F. BURKS	161	The Future of Pharmacology in the 20th Century: A 19th Century Prediction
C. TRIGGLE	165	The Future of Pharmacology in Canada
G. CASTAÑEDA-HERNÁNDEZ	167	Mexican Pharmacology at the Dawn of the New Millennium: Achievements and Challenges

Authors	Page	Title
T.F. BURKS	171	Pharmacology in the 21st Century in the United States of America
E.D. FRENCH	177	Academic Pharmacologists: Meeting the Educational Needs of Graduate Programs and the Health Care Professions
R.J. HUXTABLE	181	A Brief History of Pharmacology, Therapeutics and Scientific Thought

Constitution of the Western Pharmacology Society 225
Officers of the Society 227
Keith F. Killam Memorial Award in Receptor Pharmacology 228
Student Prize Winners 228
Society News and Meeting Information 229
Instructions to Authors 233
Registrants: 42nd Annual Meeting 235
Active Members of the Western Pharmacology Society 237
Author Index 239